

FILED APR 18 1957



Institute of Paper Science and Technology
Central Files

CONTINUOUS BASELINE STUDY

Project 1108-13

Progress Report 117

to

FOURDRINER KRAFT BOARD INSTITUTE, INC.

April 1, 1957

THE INSTITUTE OF PAPER CHEMISTRY

Appleton, Wisconsin

CONTINUOUS BASELINE STUDY

Project 1108-13

Progress Report 117

to

FOURDRINIER KRAFT BOARD INSTITUTE, INC.

April 1, 1957

THE INSTITUTE OF PAPER CHEMISTRY

Appleton, Wisconsin

In conjunction with the F. K. I. Continuous Baseline Study, The Institute of Paper Chemistry has been directed to identify the participating mills by means of a scrambled system of code letters. Under this system, which was initiated in Progress Report 105, each mill is identified by a code letter different from that used for the previous month.

During the period from March 1 to March 31, one hundred and three different sample lots of 42-lb. Fourdrinier kraft linerboard were submitted by sixteen different F.K.I. mills to The Institute of Paper Chemistry for testing. In addition, one sample of drum linerboard and one sample of miscellaneous linerboard were submitted for evaluation by one of the participating mills; the results for this sample are tabulated separately. A tabulation of the number of samples classified according to mill may be seen in Table I.

TABLE I

DISTRIBUTION OF 42-LB. LINERBOARD SAMPLES

Mill Code	Samples Submitted
A	2
B	6
C	8
D	9
E	4
F	3
G	13
H	2
I	8
J	6
K	0
L	0
M	2
N	3
O	12
P	12
Q	7
S	<u>6</u>
Total	103

These sample lots were tested for basis weight, caliper, bursting strength, and Elmendorf tear. The average strength results for each mill may be seen in Table II and are graphically presented in Figures 1 to 5. In addition to a comparison of the mill averages for the various tests, Table II also shows the current F.K.I. averages, the cumulative F.K.I. averages, and the F.K.I. indexes. The cumulative F.K.I. average is based on the results for the previous twelve months excluding the current period. Hence, in the case of the current report, it covers the period from March 1, 1956, to February 28, 1957. The F.K.I. indexes are obtained as follows:

$$\frac{\text{current F.K.I. average}}{\text{cumulative F.K.I. average}} \times 100 = \text{F.K.I. index (\%)}$$

The F.K.I. index provides a ready means of comparing the current quality with previous results. For example, the current F.K.I. average basis weight is 43.1 lb., and the cumulative F.K.I. average basis weight is 43.0 lb. Hence, the index for basis weight determined in per cent as indicated above is 100.2. This signifies that the current average basis weight is slightly higher than the cumulative average.

A comparison of the results in Table II and Figure 1 shows that the average basis weight results for all mills except S conform to the 42-lb. specification set forth in Rule 41. Mill D had the highest average basis weight, it being 44.5 lb. or approximately 6.0% higher than the 42-lb. specification. On the other hand, Mill S had the lowest average basis weight, it being 41.6 lb. or approximately 1.0% lower than the 42-lb. specification.

The amount by which the mills vary from the 42-lb. specification is as follows:

Mill Code	Per Cent
A	+3.6
B	+1.7
C	+4.3
D	+6.0
E	+1.9
F	+0.7
G	+5.7
H	+2.1
I	+2.4
J	+1.4
K	--
L	--
M	+4.3
N	+1.4
O	+1.7
P	+4.5
Q	+0.7
S	-1.0

A comparison of the average basis weight data for the previous period with the current F.K.I. average indicates that the basis weight results have remained at the same level--i.e., 43.1 lb.

A comparison of the average caliper values for the various mills (see Figure 2) shows that the mill averages vary from a low of 11.5 points for Mill S to a high of 13.5 points for Mill N. The current F.K.I. average is 12.7 points, which is the same as the cumulative F.K.I. average of 12.7 points.

The average bursting strength values obtained for each mill are graphically presented in Figure 3. It may be observed in Table II and Figure 3 that the average bursting strength values for the various mills

The amount by which the mills vary from the 42-lb. specification is as follows:

Mill Code	Per Cent
A	+3.6
B	+1.7
C	+4.3
D	+6.0
E	+1.9
F	+0.7
G	+5.7
H	+2.1
I	+2.4
J	+1.4
K	--
L	--
M	+4.3
N	+1.4
O	+1.7
P	+4.5
Q	+0.7
S	-1.0

A comparison of the average basis weight data for the previous period with the current F.K.I. average indicates that the basis weight results have remained at the same level--i.e., 43.1 lb.

A comparison of the average caliper values for the various mills (see Figure 2) shows that the mill averages vary from a low of 11.5 points for Mill S to a high of 13.5 points for Mill N. The current F.K.I. average is 12.7 points, which is the same as the cumulative F.K.I. average of 12.7 points.

The average bursting strength values obtained for each mill are graphically presented in Figure 3. It may be observed in Table II and Figure 3 that the average bursting strength values for the various mills

range from a low of 102 for Mill A to a high of 119 for Mill P. The current F.K.I. average bursting strength is 111 p.s.i.g., slightly higher than the cumulative F.K.I. average of 109 p.s.i.g.

A graphic comparison of the Elmendorf tear results for the various mills is given in Figures 4 and 5. The data of Table II show that Mill G had the highest average machine direction tear value of 394 units whereas Mill F had the lowest value of 300 units. Mill G also had the highest cross-machine direction tear value of 421 units; Mill F also had the lowest value of 348 units. It may be noted that the current F.K.I. machine direction tear average is slightly lower than the cumulative F.K.I. average whereas the current F.K.I. cross-machine direction tear average is slightly higher than the cumulative F.K.I. average.

A comparison of the F.K.I. indexes indicates that, for the current period, the current F.K.I. average for caliper is the same as the cumulative F.K.I. average, whereas the current F.K.I. averages for basis weight, bursting strength and cross-machine direction Elmendorf tear are slightly higher than the cumulative averages, and the current F.K.I. average for machine direction Elmendorf tear is slightly lower than the cumulative F.K.I. average.

In order to compare the variation within a given mill, the test results for each particular mill have been tabulated in Tables III to XX for mills A to S, respectively. In addition to the current and cumulative averages, the mill factor and mill index are given for each mill. The cumulative mill average is the average test result obtained on the samples

submitted by the particular mill for the previous twelve months excluding the current period. The mill factor and the mill index are obtained as follows:

$$\frac{\text{current mill average}}{\text{cumulative mill average}} \times 100 = \text{mill factor } (\%)$$

$$\frac{\text{current mill average}}{\text{cumulative F.K.I. average}} \times 100 = \text{mill index } (\%)$$

The mill factor and the mill index serve as a ready means for comparing the current mill results either with the previous results for that particular mill or with the cumulative F.K.I. results. The reports also contain a comparison of the test data obtained at the mills with test data obtained at The Institute of Paper Chemistry.

The results obtained on the special drum stock may be seen in Table XXI.

It may be noted in Tables III through XXI that the test data include information about the sheet finish. The summarized results for the mills which submitted sample lots during the current period are as follows:

Mill Code	No. of Sample Lots		
	W.F.	D.F.	Misc.
A	2		
B	6		
C	8		
D	9		
E	4		
F	3		
G	13		
H	2 ^a		
I	8		
J	6		

Mill Code	No. of Sample Lots		
	W.F.	D.F.	Misc.
K	0		
L	0		
M	2 ^a		
N	3 ^a		
O	12		
P	12		
Q	7 ^a		
S	6 ^a		
R ^b	1		

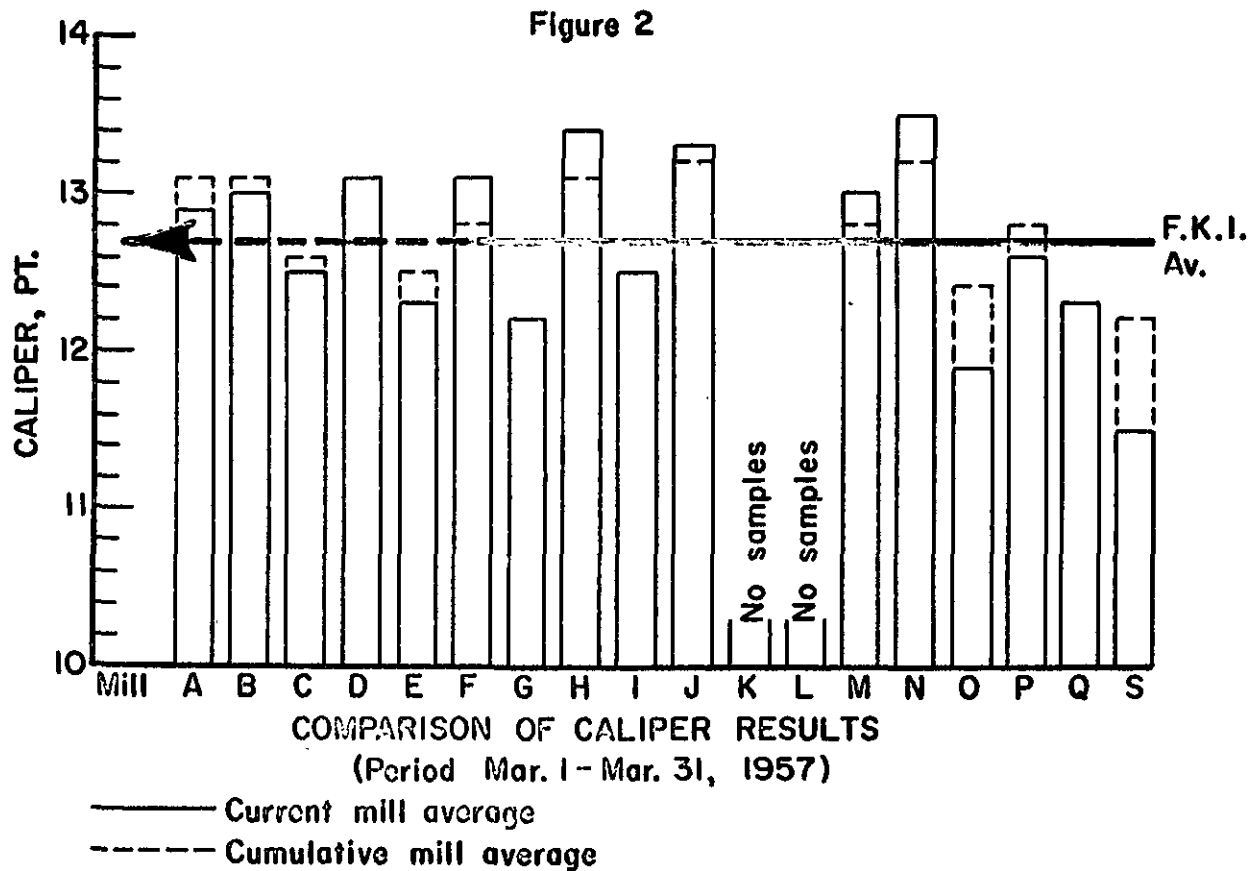
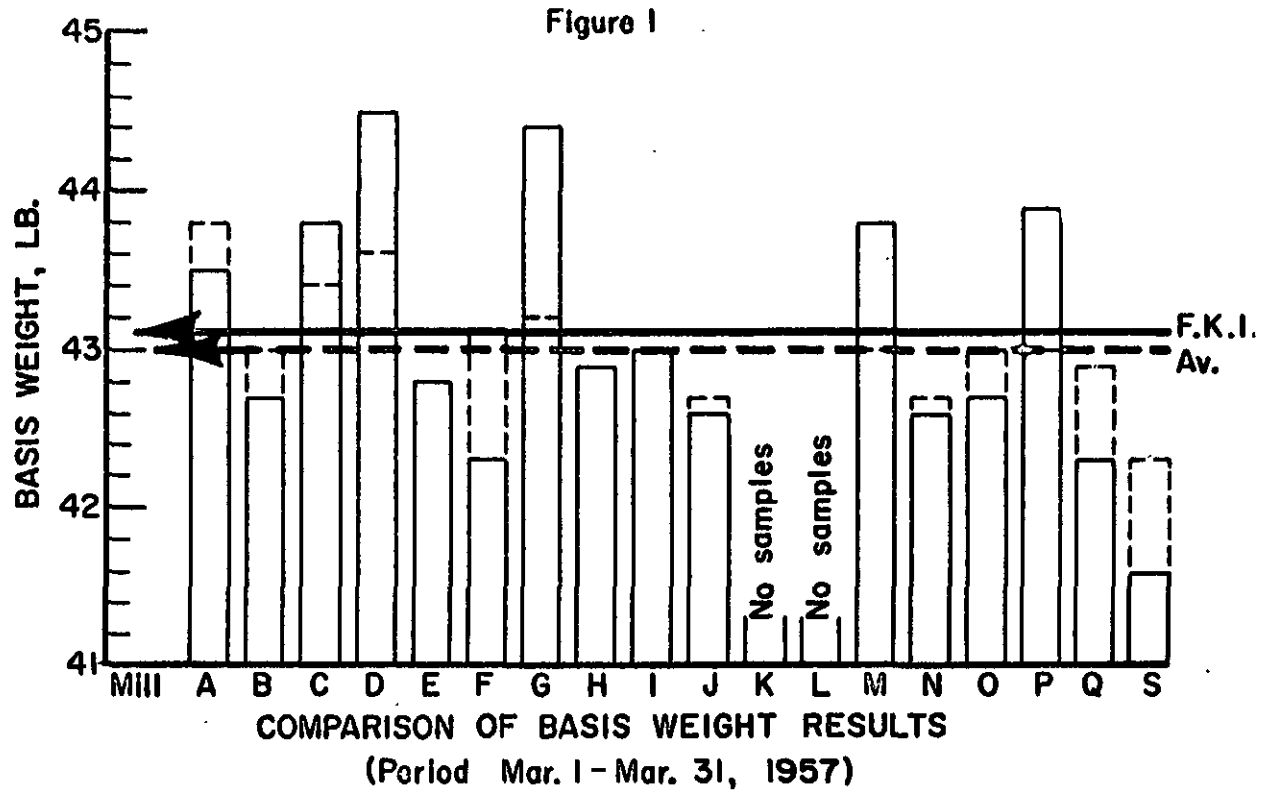
^a One side only

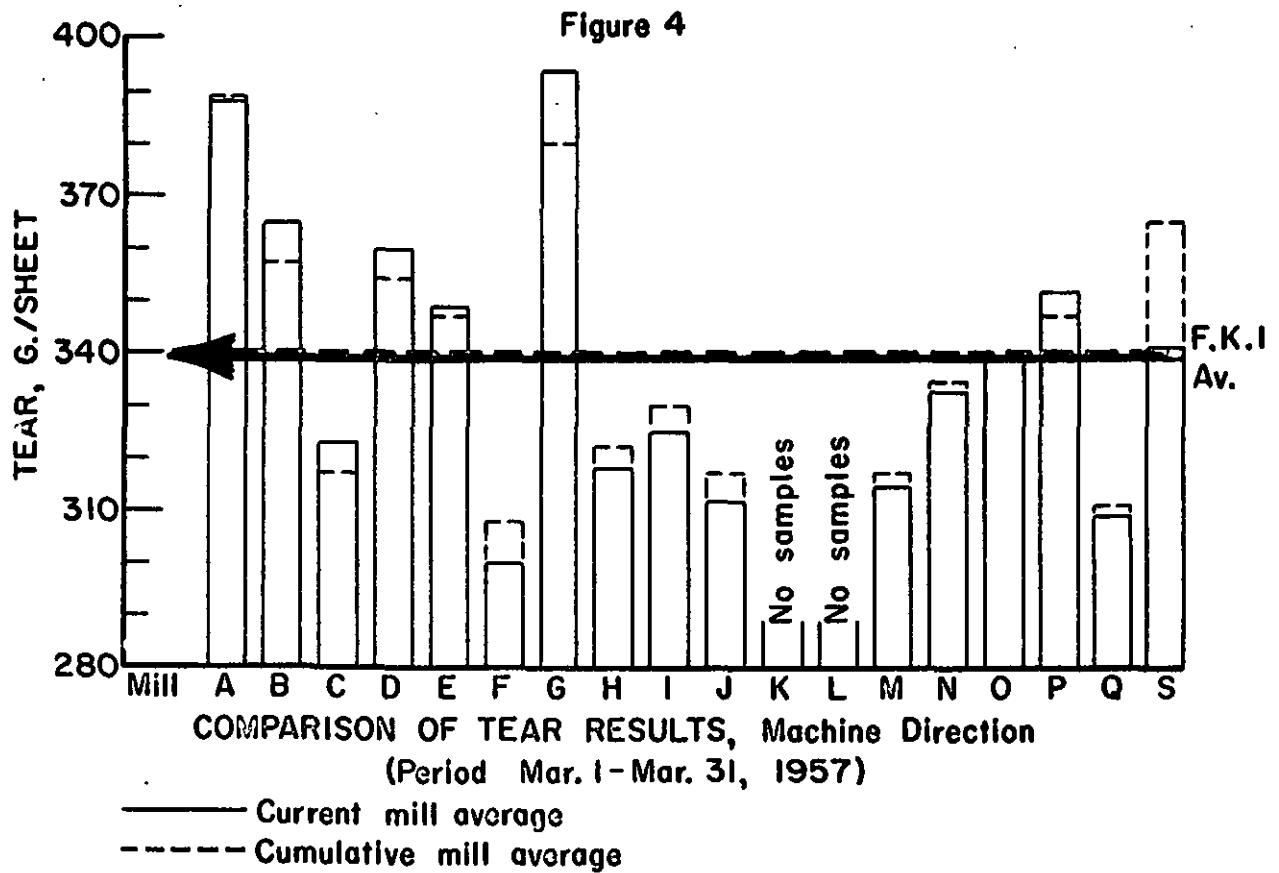
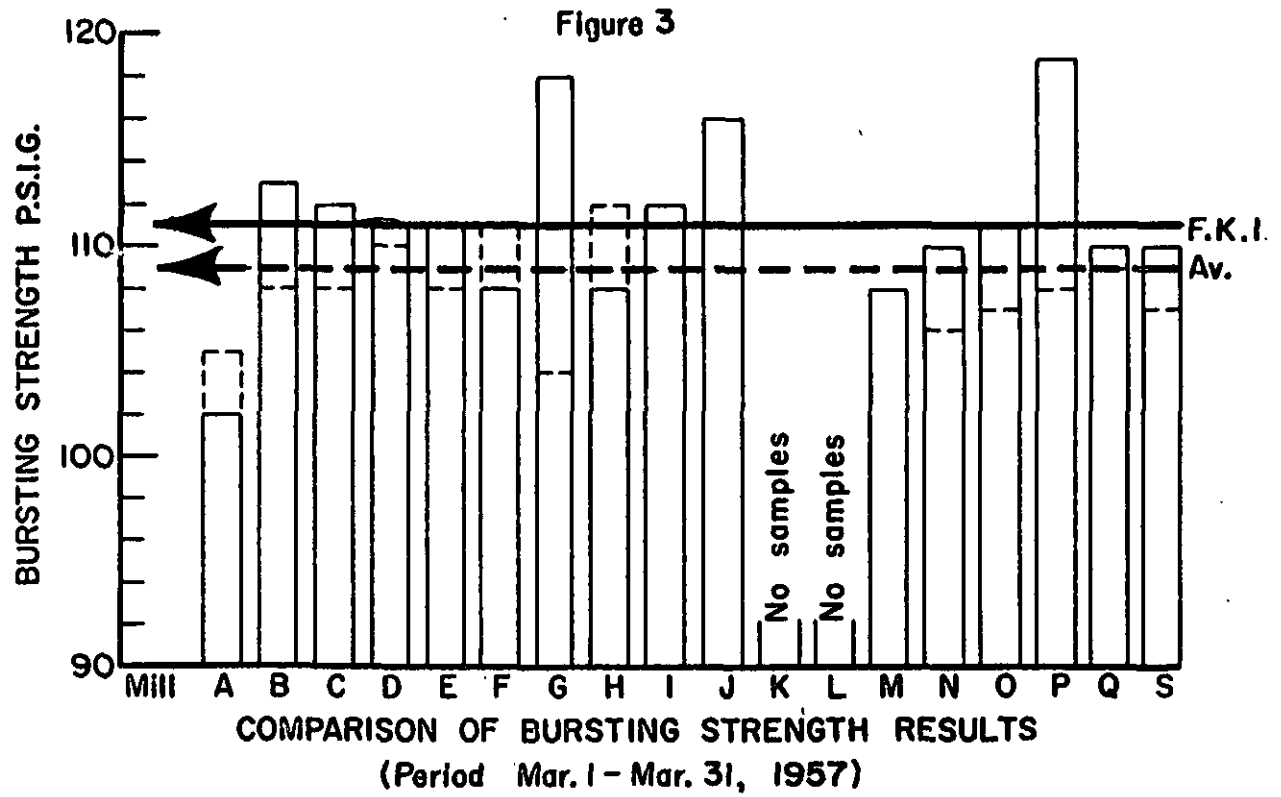
^b Drum linerboard

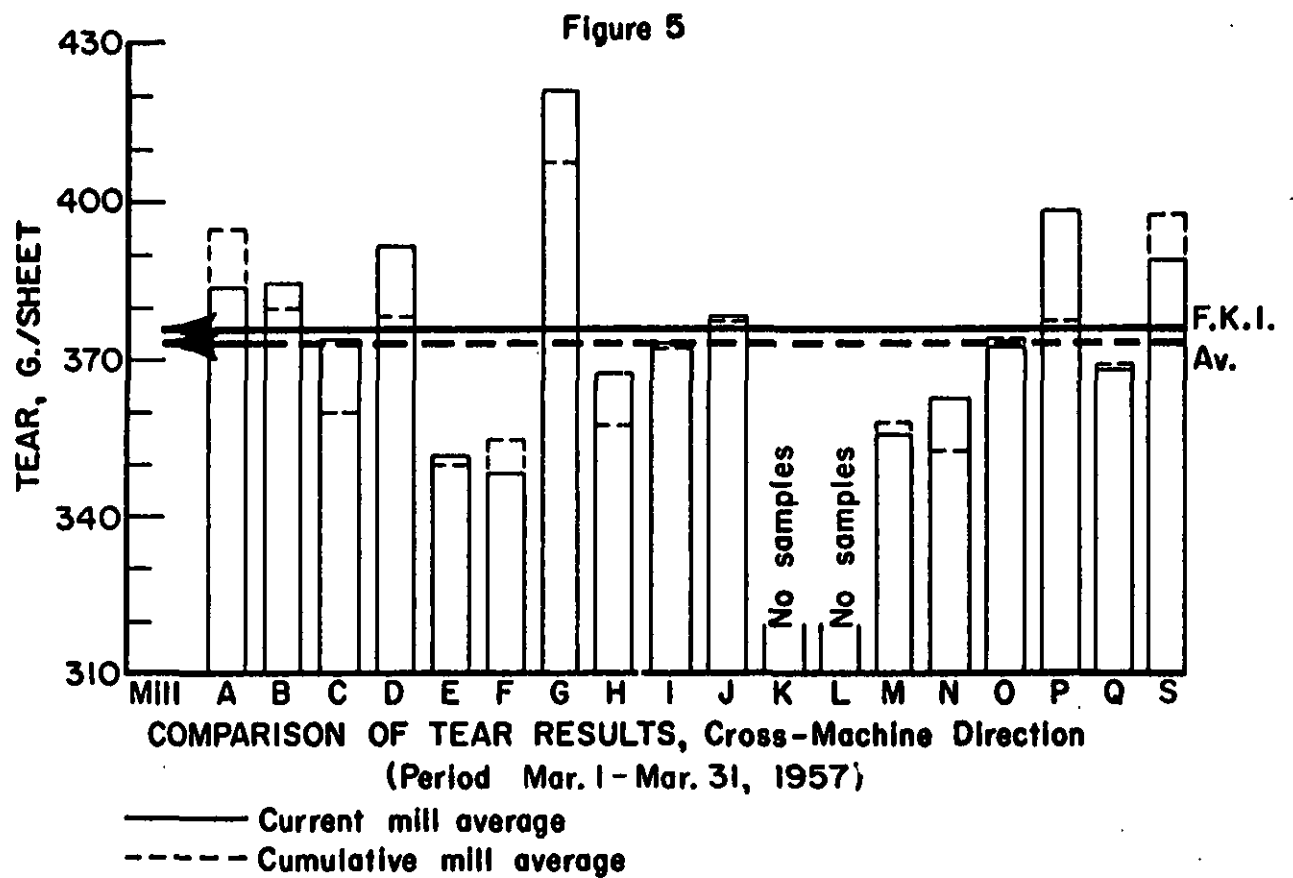
The results indicate that a majority of the mills are using
a water finish on their 42-lb. linerboard.

TABLE II
SUMMARY OF COMPOSITE MILL AVERAGES--MARCH 1 THROUGH MARCH 31, 1957

Mill	Basis Weight, lb.	Caliper, points	Bursting Strength, p.s.i. gage	Elmendorf Tear, g./sheet	
				In Machine	Cross Machine
A	43.5	12.9	102	388	384
B	42.7	13.0	113	365	385
C	43.8	12.5	112	323	374
D	44.5	13.1	111	360	392
E	42.8	12.3	111	349	352
F	42.3	13.1	108	300	348
G	44.4	12.2	118	394	421
H	42.9	13.4	108	318	367
I	43.0	12.5	112	325	373
J	42.6	13.3	116	312	378
K	No samples submitted.				
L	No samples submitted.				
M	43.8	13.0	108	314	356
N	42.6	13.5	110	333	363
O	42.7	11.9	111	339	372
P	43.9	12.6	119	352	398
Q	42.3	12.3	110	309	368
S	41.6	11.5	110	341	389
Current FK1 Average:	43.1	12.7	111	339	376
Cumulative FK1 Average:	43.0	12.7	109	340	373
FK1 Index, %	100.2	100.0	101.8	99.7	100.8







SUMMARY OF INSTITUTE DATA--MARCH 1 THROUGH MARCH 31, 1957

TABLE III

MILL A -- 42-LB. LINERBOARD

File No.	Finish	Date Recd.	Date Made	Mch. No.	Basis Weight, lb.			Caliper, points			Bursting Strength, p.s.i., gage			Elmendorf Tear, g./sheet					
					Max.	Min.	Av.	Max.	Min.	Av.	Max.	Min.	Av.	Max.	Min.	Av.	Max.	Min.	Av.
173529	S.F.	3/ 1/57	2/25/57	7	45.6	42.2	44.0	13.9	13.1	13.6	126	82	101	504	336	392 ^a	432	328	377 ^a
173719	S.F.	3/13/57	3/13/57	7	44.0	42.0	43.0	12.7	11.8	12.2	126	88	103	464	344	384 ^a	432	352	391 ^a
Current Mill Average:							42.5			12.9			102			388			384
Cumulative Mill Average:							43.8			13.1			105			389			395
Mill Factor, %							99.3			98.5			97.1			99.7			97.2
Mill Index, %							101.2			101.6			93.6			114.1			102.9

SUMMARY OF INSTITUTE DATA--MARCH 1 THROUGH MARCH 31, 1957 (continued)

TABLE IV
MILL B -- 42-lb. LINERBOARD

File No.	Finish	Date Recd.	Date Made	Mch. No.	Basis Weight, lb.			Caliper, points			Bursting Strength, p.s.i., gage			Elmendorf Tear, g./sheet					
					Max.	Min.	Av.	Max.	Min.	Av.	Max.	Min.	Av.	Max.	Min.	Av.			
173660	W.	3/12/57	2/7/57	4	43.6	42.0	42.4	13.0	12.0	12.6	127	91	111	384	320	352 ^a	448	336	371 ^a
173661	W.	3/12/57	2/12/57	4	43.6	42.2	42.8	13.8	12.7	13.2	131	74	115	400	304	371 ^a	432	352	385 ^a
173720	W.	3/18/57	2/13/57	4	44.0	42.2	43.1	13.7	13.0	13.2	124	99	113	376	336	357	416	360	387 ^a
173721	W.	3/18/57	2/19/57	2	44.0	42.4	43.4	13.8	12.9	13.2	132	102	115	400	320	361	448	352	405 ^a
173844	W.	3/22/57	3/1/57	4	43.8	42.0	42.4	13.2	12.4	12.9	126	88	111	416	336	380 ^a	424	336	374 ^a
173845	W.	3/22/57	3/2/57	4	43.8	42.0	42.3	13.4	12.8	13.1	133	90	113	400	344	369 ^a	432	336	387 ^a
Current Mill Average:					42.7			13.0			113			365			385		
Cumulative Mill Average:					43.0			13.1			108			357			380		
Mill Factor, %					99.3			99.2			104.6			102.2			101.3		
Mill Index, %					99.3			102.4			103.7			107.4			103.2		

^aThis average includes the readings for one or more specimens which tore beyond the 3/8-inch limit.

SUMMARY OF INSTITUTE DATA--MARCH 1 THROUGH MARCH 31, 1957 (continued)

TABLE V

MILL C -- 42-LB. LINERBOARD

File No.	Finish	Date Recd.	Date Made	Mch. No.	Basis Weight, lb.			Caliper, points			Bursting Strength, p.s.i.			Elmendorf Tear, g./sheet		
					Max.	Min.	Av.	Max.	Min.	Av.	Max.	Min.	Av.	Max.	Min.	Av.
173594	W.F.	3/11/57	3/2/57	2	44.2	43.8	44.0	13.0	12.3	12.7	128	94	113	368	312	337
173595	W.F.	3/11/57	3/2/57	2	44.2	43.8	44.1	12.9	12.3	12.7	130	80	109	368	296	342
173691	W.F.	3/14/57	3/5/57	1	44.0	43.4	43.9	13.1	12.2	12.5	130	92	113	360	272	327 ^a
173692	W.F.	3/14/57	3/5/57	1	44.2	43.4	43.9	12.8	12.0	12.4	130	96	116	384	336	349 ^a
173726	W.F.	3/18/57	3/10/57	2	44.2	43.0	43.9	12.9	12.0	12.4	129	89	110	336	248	295
173727	W.F.	3/18/57	3/11/57	1	44.4	42.2	43.8	12.8	12.0	12.4	123	91	111	368	264	307 ^a
173854	W.F.	3/25/57	3/17/57	2	44.4	42.4	43.1	12.4	11.6	12.1	126	96	111	352	272	313 ^a
173855	W.F.	3/25/57	3/17/57	2	44.4	43.4	43.9	12.7	12.1	12.4	134	97	116	368	288	316
Current Mill Average:					43.8			12.5			112			323		
Cumulative Mill Average:					43.4			12.6			108			317		
Mill Factor, %					100.9			99.2			103.7			101.9		
Mill Index, %					101.9			98.4			102.8			95.0		

^aThis average includes the readings for one or more specimens which tore beyond the 3/8-inch limit.

SUMMARY OF INSTITUTE DATA--MARCH 1 THROUGH MARCH 31, 1957 (continued)

TABLE VI
MILL D -- 42-LB. LINERBOARD

File No.	Finish	Date Recd.	Date Made	Mch. No.	Basis Weight, lb.			Caliper, points			Bursting Strength, p.s.i., gage			Elmendorf Tear, g./sheet		
					Max.	Min.	Av.	Max.	Min.	Av.	Max.	Min.	Av.	Max.	Min.	Av.
173601	W.F.	3/11/57	2/27/57	-	47.8	43.8	45.7	13.6	12.3	13.0	131	97	111	416	320	358
173602	W.F.	3/11/57	2/28/57	-	44.4	42.4	44.0	13.9	13.1	13.5	128	94	110	416	288	358 ^a
173603	W.F.	3/11/57	3/1/57	-	45.8	44.2	44.9	14.2	13.0	13.7	130	86	111	432	328	359 ^a
173591	W.F.	3/11/57	3/6/57	-	45.6	42.2	43.6	13.9	12.4	13.1	149	100	114	384	304	354 ^a
173592	W.F.	3/11/57	3/7/57	-	45.8	42.0	44.0	13.1	11.0	12.4	142	97	119	432	304	351 ^a
173593	W.F.	3/11/57	3/8/57	-	45.0	44.0	44.5	13.6	12.6	13.1	131	84	108	432	328	378 ^a
173768	W.F.	3/20/57	3/13/57	-	46.2	43.4	45.0	13.9	12.3	13.1	135	94	110	384	320	349 ^a
173769	W.F.	3/20/57	3/14/57	-	44.4	43.6	43.9	13.2	12.6	12.8	123	89	108	416	320	373 ^a
173770	W.F.	3/20/57	3/15/57	-	46.2	43.8	44.8	14.0	12.8	13.5	139	74	109	432	296	363 ^a
Current Mill Average:					44.5			13.1			111			360		
Cumulative Mill Average:					43.6			12.7			110			354		
Mill Factor, %					102.1			103.1			100.9			101.7		
Mill Index, %					103.5			103.1			101.8			105.9		

^aThis average includes the readings for one or more specimens which tore beyond the 3/8-inch limit.

SUMMARY OF INSTITUTE DATA--MARCH 1 THROUGH MARCH 31, 1957 (continued)

TABLE VII
MILL E -- 42-LB. LINERBOARD

File No.	Finish	Date Recd.	Date Made	Mch. No.	Basis Weight, lb.		Caliper, points		Bursting Strength, P.S.I., 4-1/2" Dia.		Elmendorf Tear, g./sheet	
					Max.	Min.	Max.	Min.	Max.	Min.	In	Across
173598	W.F.	3/11/57	3/4/57	-	44.0	41.8	12.8	11.9	129	85	408	296
173599	W.F.	3/11/57	3/4/57	-	44.0	42.0	13.0	12.0	135	92	384	312
173835	W.F.	3/21/57	3/11/57	-	44.0	41.6	12.9	11.7	121	90	432	288
173836	W.F.	3/21/57	3/11/57	-	44.8	41.8	12.6	11.7	132	88	384	304
Current Mill Average:					42.8		12.3		111		349	
Cumulative Mill Average:					42.8		12.5		108		347	
Mill Factor, %					100.0		98.4		102.8		100.6	
Mill Index, %					99.5		96.9		101.8		102.6	
											352	
											350	
											400	
											416	
											368	
											368	
											280	
											333 ^a	

^aThis average includes the readings for one or more specimens which tore beyond the 3/8-inch limit.

SUMMARY OF INSTITUTE DATA--MARCH 1 THROUGH MARCH 31, 1957 (continued)

TABLE VIII

MILL F -- 42-LB. LINERBOARD

File No.	Finish	Date Recd.	Date Made	Mch. No.	Basis Weight, lb.			Caliper, points			Bursting Strength, p.s.i., edge			Elmendorf Tear, g./sheet		
					Max.	Min.	Av.	Max.	Min.	Av.	Max.	Min.	Av.	Max.	Min.	Av.
173562	W.F.	3/6/57	2/26/57	1	44.2	42.0	43.2	13.7	12.8	13.2	135	85	109	336	240	298 ^a
173732	W.F.	3/19/57	3/8/57	1	42.8	40.4	41.8	13.7	12.8	13.1	124	92	108	352	240	300 ^a
173838	W.F.	3/21/57	3/11/57	1	43.0	40.4	42.0	13.8	12.2	13.0	130	80	106	376	256	302
Current Mill Average:					42.3			13.1			108			300		
Cumulative Mill Average:					43.1			12.8			111			308		
Mill Factor, %					98.1			102.3			97.3			97.4		
Mill Index, %					98.4			103.1			99.1			88.2		
														348		
														355		
														98.0		
														93.3		

^aThis average includes the readings for one or more specimens which tore beyond the 3/8-inch limit.

SUMMARY OF INSTITUTE DATA--MARCH 1 THROUGH MARCH 31, 1957 (continued)

TABLE IX

MILL G -- 42-LB. LINERBOARD

File No	Finish	Date Recd.	Date Made	Mch. No.	Basis Weight, lb.		Caliper, points		Bursting Strength, p.s.i. gage		Elmendorf Tear, g./sheet	
					Max.	Min.	Max.	Min.	Max.	Min.	Max.	Min.
173524	N.B.	3/1/57	2/14/57	-	46.2	43.6	12.5	11.7	12.1	137	90	114
173560	N.B.	3/6/57	2/16/57	-	46.0	43.8	13.1	12.0	12.5	137	88	117
173604	N.B.	3/11/57	2/28/57	-	46.0	43.0	12.9	12.0	12.2	137	100	115
173662	N.B.	3/12/57	2/26/57	-	46.2	43.8	12.8	11.8	12.1	151	91	124
173525	N.B.	3/1/57	2/12/57	-	46.4	44.8	12.8	12.2	12.4	133	89	114
173561	N.B.	3/6/57	2/15/57	-	46.2	42.6	12.5	11.5	11.9	139	103	121
173553	N.B.	3/25/57	3/9/57	-	44.4	41.8	12.5	11.6	12.1	130	88	116
173605	N.B.	3/11/57	2/27/57	-	46.0	44.0	13.0	12.0	12.4	143	100	118
173659	N.B.	3/25/57	3/3/57	-	45.2	42.2	12.3	11.8	12.1	130	103	116
173830	N.B.	3/25/57	3/7/57	-	45.8	42.4	12.7	11.7	12.1	138	96	120
173361	N.B.	3/25/57	3/8/57	-	44.4	43.8	13.0	11.8	12.3	147	89	115
173850	N.B.	3/25/57	3/10/57	-	45.2	43.6	12.4	11.5	12.1	143	104	120
173851	N.B.	3/25/57	3/13/57	-	45.4	42.6	13.0	12.0	12.2	142	98	118
Current Mill Average:					44.4		12.2		118		394	
Cumulative Mill Average:					43.2		12.2		104		380	
Mill Factor, %					102.8		100.0		113.5		103.7	
Mill Index, %					103.3		96.1		108.3		115.9	
											421	
											407	
											103.4	
											112.9	

This average includes the readings for one or more specimens which tore beyond the 3/8-inch limit.

SUMMARY OF INSTITUTE DATA--MARCH 1 THROUGH MARCH 31, 1957 (continued)

TABLE X

MILL H -- 42-LB. LINERBOARD

File No.	Finish	Date Recd.	Date Made	Mch. No.	Basis Weight, lb.		Caliper, points		Bursting Strength, P.S.I. gage		Elmendorf Tear, g./sheet			
					Max.	Min.	Max.	Min.	Max.	Min.	Max.	Min.	Max.	Min.
173523	AFIS	3/1/57	2/11/57	1	43.2	42.0	13.8	12.7	124	82	408	272	329 ^a	400
173600	AFIS	3/11/57	2/23/57	1	44.0	42.0	14.2	13.0	136	87	344	256	308	416
Current Mill Average.					42.9		13.4		108		318		367	
Cumulative Mill Average.					42.9		13.1		112		322		357	
Mill Factor, %					100.0		102.3		96.4		98.8		102.8	
Mill Index, %					99.8		105.5		99.1		93.5		98.4	

^aThis average includes the readings for one or more specimens which tore beyond the 3/8-inch limit.

SUMMARY OF INSTITUTE DATA--MARCH 1 THROUGH MARCH 31, 1957 (continued)

TABLE X

MILL H -- 42-LB. LINERBOARD

File No.	Finish	Date Recd.	Date Made	Mch. No.	Basis Weight,		Caliper,		Bursting Strength,		Elmendorf Tear,																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																												
					lb.		points		p.s.i., gage		g./sheet		In		Across																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																								
					Max.	Min.	Max.	Min.	Max.	Min.	Max.	Min.					Max.	Min.	Max.	Min.	Max.	Min.	Max.	Min.	Max.	Min.	Max.																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																												
173528	WFLS	3/1/57	2/11/57	1	43.2	42.0	42.6	13.8	12.7	13.3	124	82	104	408	272	329 ^a	400	312	363 ^a																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																				

SUMMARY OF INSTITUTE DATA--MARCH 1 THROUGH MARCH 31, 1957 (continued)

TABLE XI

MILL I -- 42-LB. LINERBOARD

File No	Finish	Date Recd	Date Made	Mch No.	Basis Weight, lb.		Caliper, Points		Bursting Strength, p.s.i.		In		Elmendorf Tear, g./sheet		Across	
					Max.	Min.	Max.	Min.	Max.	Min.	Max.	Min.	Max.	Min.	Max.	Min.
173563	W.F.	3/6/57	2/18/57	1	43.8	41.4	13.3	12.3	138	84	400	288	424	328	373 ^a	
173564	W.F.	3/6/57	2/19/57	2	44.4	42.2	13.3	12.2	137	93	392	288	432	304	374 ^a	
173658	W.F.	3/12/57	2/25/57	2	44.0	42.2	13.5	11.9	127	80	392	280	440	336	381 ^a	
173659	W.F.	3/12/57	2/25/57	2	44.0	42.0	12.9	11.9	133	93	344	264	416	344	373 ^a	
173689	W.F.	3/14/57	2/27/57	2	44.0	41.6	12.7	11.9	141	95	392	272	400	336	373 ^a	
173690	W.F.	3/14/57	2/28/57	2	44.8	42.0	13.1	12.2	133	82	440	288	432	360	389 ^a	
173733	W.F.	3/19/57	3/12/57	2	44.0	42.0	12.6	10.9	137	82	328	240	400	320	351 ^a	
173734	W.F.	3/19/57	3/12/57	2	44.0	42.0	12.4	11.2	136	81	392	248	400	336	366 ^a	
Current Mill Average:					43.0		12.5		112		325		373			
Cumulative Mill Average:					43.0		12.5		111		330		372			
Mill Factor, %					100.0		100.0		100.9		98.5		100.3			
Mill Index, %					100.0		98.4		102.8		95.6		100.0			

^aThis average includes the readings for one or more specimens which tore beyond the 3/8-inch limit.

SUMMARY OF INSTITUTE DATA--MARCH 1 THROUGH MARCH 31, 1957 (continued)

TABLE XII

MILL J -- 42-LB. LINERBOARD

File No.	Finish	Date Recd.	Date Made	Mch. No.	Basis Weight, lb.		Caliper, points		Bursting Strength, p.s.i.		Elmendorf Tear, g./sheet	
					Max.	Av.	Max.	Min.	Max.	Min.	Max.	Min.
173541	W.F.	3/4/57	2/4/57	1	42.4	41.0	13.0	11.6	144	90	352	304
173542	W.F.	3/4/57	2/7/57	1	44.4	42.0	14.9	13.0	142	102	352	272
173543	W.F.	3/4/57	2/12/57	1	43.8	40.4	13.9	12.8	140	103	336	272
173544	W.F.	3/4/57	2/16/57	1	43.8	41.6	13.9	12.6	133	91	344	256
173687	W.F.	3/14/57	2/18/57	1	43.0	41.6	14.0	12.1	125	100	344	256
173688	W.F.	3/14/57	2/21/57	1	43.8	42.2	14.2	12.8	148	84	368	272
Current Mill Average:					42.6		13.3		116		312	
Cumulative Mill Average:					42.7		13.2		116		317	
Mill Factor, %					99.8		100.8		100.0		98.4	
Mill Index, %					99.1		104.7		106.4		91.8	

TABLE XIII

MILL K -- 42-LB. LINERBOARD

No samples submitted.

^aThis average includes the readings for one or more specimens which tore beyond the 3/8-inch limit.

SUMMARY OF INSTITUTE DATA--MARCH 1 THROUGH MARCH 31, 1957 (continued).

TABLE XIV

MILL L -- 42-LB. LINERBOARD

File No.	Finish	Date Recd.	Date Made	Mch. No.	Basis Weight, lb.		Caliper, points		Bursting strength, p.s.i., gage		Elmendorf Tear, g./sheet	
					Max.	Min.	Max.	Min.	Max.	Min.	In	Across
					Av.	Av.	Av.	Av.	Av.	Av.	Max.	Min.

No samples submitted.

TABLE XV

MILL M -- 42-LB. LINERBOARD

173837	WFLS	3/21/57	3/19/57	1	44.0	42.6	43.5 ^b	13.1	12.3	12.9 ^b	124	79	107 ^b	336	304	320 ^b	376	344	360 ^{a, b}
173842	WFLS	3/22/57	3/20/57	1	45.4	43.2	44.0	13.7	12.6	13.2	134	75	109	352	272	308	384	320	353 ^a
Current Mill Average.						43.8			13.0			108				314			356
Cumulative Mill Average						43.0			12.8			108				317			358
Mill Factor, %						101.9			101.6			100.0				99.1			99.4
Mill Index, %						101.9			102.4			99.1				92.4			95.4

^aThis average includes the readings for one or more specimens which tore beyond the 3/8-inch limit.

^bThis average represents readings from only the B series of sheets.

SUMMARY OF INSTITUTE DATA--MARCH 1 THROUGH MARCH 31, 1957 (continued)

TABLE XVI

MILL N -- 42-LB. LINERBOARD

File No.	Finish	Date Recd.	Date Made	Mch. No.	Basis Weight, lb.		Caliper, points		Bursting Strength, p.s.i. gage		Elmendorf Tear, g./sheet								
					Max.	Min.	Av.	Max.	Min.	Av.	In		Across						
											Max.	Min.	Max.	Min.	Av.				
173596	WFLS	3/11/57	3/4/57	2	44.0	41.8	42.9	14.0	12.6	13.3	129	95	110	368	264	313 ^a	432	344	367 ^a
173597	WFLS	3/11/57	3/6/57	2	44.0	41.8	42.7	14.3	13.0	13.6	121	83	108	432	272	343 ^a	432	272	350 ^a
173722	WFLS	3/18/57	3/12/57	2	43.8	40.4	42.1	14.2	12.9	13.5	134	85	111	424	296	342 ^a	448	304	371 ^a
Current Mill Average:							42.6			13.5			110			333			363
Cumulative Mill Average:							42.7			13.2			106			335			353
Mill Factor, %							99.8			102.3			103.8			99.4			102.8
Mill Index, %							99.1			106.3			100.9			97.9			97.3

^aThis average includes the readings for one or more specimens which tore beyond the 3/8-inch limit.

SUMMARY OF INSTITUTE DATA--MARCH 1 THROUGH MARCH 31, 1957 (continued)

TABLE XVII
MILL 0 -- 42-LB. LINERBOARD

File No	Finish	Date Recd	Date Made	Mch. No.	Basis Weight, lb.		Caliper, points		Bursting Strength, p.s.i., gage		Elmendorf Tear, g./sheet	
					Max.	Min.	Max.	Min.	Max.	Min.	Max.	Min.
173522	W.F.	3/ 1/57	2/12/57	2	44.0	42.4	12.9	11.9	12.6	135	80	107
173523	W.F.	3/ 1/57	2/13/57	2	44.0	43.0	13.0	12.2	12.6	137	89	110
173539	W.F.	3/ 4/57	2/18/57	3	44.0	42.8	11.9	11.0	11.5	139	95	117
173540	W.F.	3/ 4/57	2/18/57	3	44.0	42.4	11.9	11.0	11.5	131	89	114
173724	W.F.	3/18/57	2/25/57	2	42.2	41.0	12.5	11.8	12.0	132	90	109
173725	W.F.	3/18/57	2/26/57	2	43.0	41.8	12.2	11.5	11.9	130	85	110
173737	W.F.	3/19/57	3/ 7/57	2	43.4	42.0	12.1	11.5	11.8	132	82	112
173738	W.F.	3/19/57	3/ 8/57	2	42.4	41.6	11.9	11.2	11.6	146	90	113
173739	W.F.	3/19/57	3/12/57	2	42.8	42.2	12.3	11.4	11.9	132	85	110
173740	W.F.	3/19/57	3/13/57	2	42.8	41.8	12.0	11.5	11.8	137	90	110
173856	W.F.	3/25/57	3/17/57	2	43.4	42.0	12.4	11.6	12.0	143	82	111
173857	W.F.	3/25/57	3/18/57	2	43.0	41.6	12.8	11.0	12.0	131	81	110
Current Mill Average:					42.7		11.9		111		339	
Cumulative Mill Average.					43.0		12.4		107		339	
Mill Factor, %					99.3		96.0		103.7		100.0	
Mill Index, %					99.3		93.7		101.8		99.7	

*This average includes the readings for one or more specimens which tore beyond the 3/8-inch limit.

SUMMARY OF INSTITUTE DATA--MARCH 1 THROUGH MARCH 31, 1957 (continued)

TABLE XVIII

MILL P -- 42-LB. LINERBOARD

File No	Finish	Date Recd.	Date Made	Mch. No.	Basis Weight, lb.		Caliper, points		Bursting Strength, P.S.I., Page		Elmendorf Tear, g./sheet	
					Max.	Min.	Max.	Min.	Max.	Min.	In	Across
173545	W.F.	3/ 4/57	2/26/57	-	43.8	41.6	12.9	12.0	147	95	336	344
173546	W.F.	3/ 4/57	2/27/57	-	46.0	44.0	13.9	12.4	136	105	336	344
173589	W.F.	3/ 8/57	2/28/57	-	45.2	43.6	13.3	12.9	139	91	320	344
173590	W.F.	3/ 8/57	2/28/57	-	46.0	44.0	13.7	12.8	140	105	336	344
173693	W.F.	3/14/57	3/ 7/57	-	46.0	42.4	13.5	12.0	155	99	312	344
173694	W.F.	3/14/57	3/ 8/57	-	45.8	42.6	13.1	11.9	135	98	272	344
173695	W.F.	3/14/57	3/ 8/57	-	45.6	43.0	13.7	12.1	144	97	304	344
173728	W.F.	3/18/57	3/12/57	-	44.2	42.4	12.8	11.3	141	95	304	344
173729	W.F.	3/18/57	3/12/57	-	43.8	40.6	12.8	11.8	130	98	272	344
173730	W.F.	3/18/57	3/12/57	-	45.4	42.4	12.8	12.0	130	86	320	344
173731	W.F.	3/18/57	3/13/57	-	44.4	42.4	13.1	12.2	137	100	296	344
173839	W.F.	3/21/57	3/13/57	-	46.0	43.6	13.1	12.1	138	92	328	344
Current Mill Average:					43.9		12.6		119		352	
Cumulative Mill Average:					43.0		12.8		108		347	
Mill Factor, %					102.1		98.4		110.2		101.4	
Mill Index, %					102.1		99.2		109.2		103.5	

This average includes the readings for one or more specimens which tore beyond the 3/8-inch limit.

SUMMARY OF INSTITUTE DATA--MARCH 1 THROUGH MARCH 31, 1957 (continued)

TABLE XIX

MILL Q -- 42-LB. LINERBOARD

File No.	Finish	Date Recd.	Date Made	Mch. No.	Basis Weight, lb.		Caliper, points		Bursting Strength, p.s.i., gage		Elmendorf Tear, g./sheet	
					Max.	Min.	Max.	Min.	Max.	Min.	In	Across
173716	WFLS	3/18/57	2/27/57	1	43.2	42.0	12.9	11.7	124	93	376	256
173717	WFLS	3/18/57	2/28/57	1	43.8	42.0	13.3	11.0	128	92	328	272
173718	WFLS	3/18/57	3/ 5/57	1	42.8	41.8	13.7	12.0	129	75	328	272
173735	WFLS	3/19/57	3/ 7/57	1	42.4	42.0	13.5	12.5	129	90	432	272
173736	WFLS	3/19/57	3/11/57	1	42.6	41.2	12.1	11.5	123	96	320	272
173846	WFLS	3/22/57	3/15/57	1	42.2	40.4	12.2	11.4	130	98	368	288
173847	WFLS	3/22/57	3/16/57	1	43.8	42.2	12.9	11.7	127	93	336	240
Current Mill Average:					42.3		12.3		110		309	
Cumulative Mill Average:					42.9		12.3		109		311	
Mill Factor, %					98.6		100.0		100.9		99.4	
Mill Index, %					98.4		96.9		100.9		90.9	

a This average includes the readings for one or more specimens which tore beyond the 3/8-inch limit.

SUMMARY OF INSTITUTE DATA--MARCH 1 THROUGH MARCH 31, 1957 (continued)

TABLE XIX

MILL Q -- 42-LB. LINERBOARD

File No.	Finish	Date Recd.	Date Made	Mch. No.	Basis Weight, lb.		Caliper, points		Bursting Strength, p.s.i., gage		Elmendorf Tear, g./sheet	
					Max.	Min.	Max.	Min.	Max.	Min.	In	Across
173716	WFLS	3/18/57	2/27/57	1	43.2	42.0	42.7	12.9	11.7	12.3	376	256
173717	WFLS	3/18/57	2/28/57	1	43.8	42.0	42.7	13.3	11.0	12.2	328	272
173718	WFLS	3/18/57	3/ 5/57	1	42.8	41.8	42.1	13.7	12.0	12.9	432	272
173735	WFLS	3/19/57	3/ 7/57	1	42.4	42.0	42.2	13.5	12.5	12.9	416	280
173736	WFLS	3/19/57	3/11/57	1	42.6	41.2	41.8	12.1	11.5	11.8	320	272
173846	WFLS	3/22/57	3/15/57	1	42.2	40.4	41.8	12.2	11.4	11.9	368	288
173847	WFLS	3/22/57	3/16/57	1	43.8	42.2	43.0	12.9	11.7	12.3	336	240
Current Mill Average:					42.3		12.3		110		309	
Cumulative Mill Average:					42.9		12.3		109		311	
Mill Factor, %					98.6		100.0		100.9		99.4	
Mill Index, %					98.4		96.9		100.9		90.9	

^aThis average includes the readings for one or more specimens which tore beyond the 3/8-inch limit.

SUMMARY OF INSTITUTE DATA—MARCH 1 THROUGH MARCH 31, 1957 (continued)

TABLE XX

MILL S -- 42-LB. LINERBOARD

File No.	Finish	Date Recd.	Date Made	Mch. No.	Basis Weight, lb.		Caliper, Points		Bursting Strength, P.S.I., Edge		Elmendorf Tear, g./sheet	
					Max.	Min.	Max.	Min.	Max.	Min.	Max.	Min.
173526	WFLS	3/1/57	2/23/57	1	42.0	40.8	12.3	11.3	124	101	400	296
173538	WFLS	3/4/57	2/23/57	1	41.8	40.0	12.5	10.9	129	90	400	288
173588	WFLS	3/8/57	3/3/57	1	42.3	40.6	11.4	10.2	139	82	392	288
173657	WFLS	3/12/57	3/5/57	1	41.8	40.2	12.0	11.0	137	95	400	280
173843	WFLS	3/22/57	3/14/57	1	43.8	42.2	12.0	10.8	127	91	376	280
173853	WFLS	3/25/57	3/16/57	1	42.6	41.0	12.8	11.3	122	89	376	288
Current Mill Average.					41.6		11.5		110		341	
Cumulative Mill Average:					42.3		12.2		107		365	
Mill Factor, %					98.3		94.3		102.8		93.4	
Mill Index, %					96.7		90.6		100.9		100.3	
											389	
											397	
											98.0	
											104.3	

^aThis average includes the readings for one or more specimens which tore beyond the 3/8-inch limit.

SUMMARY OF INSTITUTE DATA--MARCH 1 THROUGH MARCH 31, 1957 (continued)

TABLE XXI
MILL R -- MISCELLANEOUS

File No.	Finish	Date Recd.	Date Made	Mch. No.	Basis Weight,		Caliper,		Bursting Strength,		Elmendorf Tear,		
					lb.	Av.	points	p.s.i. gage	g./sheet	In		Across	
										Max.	Min.	Av.	Max.
<u>47-lb. Drum Linerboard</u>													
173527	WF2S	3/1/57	2/22/57	2	47.2	45.6 46.4	14.6 13.0 13.8	110 68 94	416 344 376 ^a	408 328 381 ^a			
Current Mill Average.						46.4	13.8	94	376	381			
Cumulative Mill Average.						47.4	14.2	95	387	384			
Mill Factor, %						97.9	97.2	98.9	97.2	99.2			
<u>33-lb. Linerboard</u>													
173723	WF1S	3/18/57	3/14/57	2	34.4	33.6 34.0	11.1 10.0 10.4	99 75 85	296 224 265	320 240 268 ^a			

^aThis average includes the readings for one or more specimens which tore beyond the 3/8-inch limit.

As a supplementary part of the Continuous Baseline Study, comparisons of the mill test results with those obtained at The Institute of Paper Chemistry on corresponding samples have been included in this report. As may be noted in Table XXII, the atmospheric conditions used prior to and during the testing period were relatively uniform for the mills which reported this information. However, the conditioning periods varied considerably.

Code	Preconditioning			Conditioning		
	R.H., %	Temp., °F.	Time, hr.	R.H., %	Temp., °F.	Time, hr.
A	50	73	24	50	73	24
B		None		48-57	70-74	--
C		None		50	73	24
D	38	76-77	8	51	72-73	16
E		None		50	73	0.5
F	48-64	70-72	0.5	50	70	24-48
G		None		45-54	70-72	48+
H		None		51-52	85-88	--
I	50	73	24	50	73	24
J		None		33-80	72-80	--
K			No samples submitted.			
L			No samples submitted.			
M	52-58	77-78	20-24	33-52	72-77	2
N	50-52	72	24		None	
O		None		50	73	24
P		None		50	73	24-96
Q		None		48-54	68-71	--
S	50	73	24	50	73	24

A summary of the Institute and mill test results for the current period is shown in Table XXIII, and a comparison of differences between Institute and mill test results is given in Table XXIV for the current period and the two previous periods. The comparisons are given in Tables XXV to

to XLII, for the 42-lb. liner samples. A comparison of the special drum and miscellaneous stock is given in Table XLIII. In all the comparisons given in Tables XXV to XLIII, the Institute's test values have been used as the reference line.

A comparison of the test data in Tables XXIII and XXIV reveals the level of agreement between mill and Institute data for basis weight, caliper, bursting strength, and Elmendorf tear. Table XXIII shows the average difference between Institute and mill test results for all sample lots submitted by each mill for the current period. In addition, the maximum difference encountered in comparing the Institute and mill test results for a given sample lot is shown. In Table XXIV, the average differences shown for each test in Table XXIII have been calculated on a percentage basis for each mill. In addition, for purposes of comparison, the average percentage differences for the preceding two periods are shown.

It may be noted in Table XXIV that the maximum variation between the average basis weight results of the Institute and those of a given mill on corresponding samples is three per cent for the current period. By comparison, the maximum percentage variation noted for the previous two periods was also three per cent. Further, it may be noted that the average basis weight results for Mills D, F, N, O, Q, and S are higher than those for the Institute, the average results for Mills B and P are the same, and the average results for the other mills are lower. None of the variations for the current period appear to be excessive.

The maximum variation in caliper for the current period is five per cent. This variation is slightly lower than the maximum variation for the previous two periods---namely, six per cent. Compared with the Institute's test results, the test results for all mills are lower. Only the variations for Mills A and M may be excessive.

It may be noted in Table XXIV that the bursting strength results exhibited a maximum variation of eight per cent for the current period. The average results for Mills A, B, C, E, H, M, O, and Q are higher than those for the Institute, and the results for the other mills are lower. Only the variations associated with the results for Mills A, N, and P appeared to be excessive.

It may be seen in Tables XXIII and XXIV that the average machine direction tear results for Mills B, C, F, N, Q, and S are higher than those for the Institute, the results for Mills H and O are the same, and the results for the other mills are lower. The maximum variation for the current period is twenty-six per cent. The variations which exceed a magnitude of ten per cent may be excessive. Mills in this category include A, J, and M.

With regard to the cross-machine direction tear results, it may be noted that the average results for Mills C, E, F, N, O, Q, and S are higher than those for the Institute, the average result for Mill A is the same, and the average results for the other mills are lower. The maximum variation for the current period is twenty-two per cent. The variation noted for Mill S exceeds ten per cent and appears to be excessive.

SUMMARY OF TEST RESULT COMPARISONS (AVERAGE MILL AND INSTITUTE RESULTS)

Hills No. of Samples Compared		A	B	C	D	E	F	G	H	I	J	K	L	M	N	O	P	Q	S
		2	6	8	9	4	3	13	2	8	6	0	0	2	3	12	12	7	6
		<u>Basic Weight</u>																	
Institute		43.5	42.7	43.8	44.5	42.8	42.3	44.4	42.9	43.0	42.6	—	—	43.8	42.6	42.7	43.9	42.3	41.6
Mill		43.2	42.7	43.2	44.8	42.5	43.1	44.1	42.5	42.9	42.1	—	—	43.3	43.8	42.8	43.9	42.5	42.0
Av. Diff.**		-0.3	0.0	-0.6	+0.3	-0.3	+0.8	-0.3	-0.4	-0.1	-0.5	—	—	-0.5	+1.2	+0.1	0.0	+0.2	+0.4
Max. Diff.***		-0.4	-1.1	-0.9	+1.5	-0.5	+0.9	-0.7	-0.4	-0.8	-1.1	—	—	-0.8	+1.9	+0.5	+0.4	+0.7	+0.7
		<u>Caliper</u>																	
Institute		12.9	13.0	12.5	13.1	12.3	13.1	12.2	13.4	12.5	13.3	—	—	13.0	13.5	11.9	12.6	12.3	11.5
Mill		12.3	12.6	12.1	12.7	11.9	13.0	11.8	12.9	12.1	12.9	—	—	12.3	13.0	11.4	12.1	12.1	11.2
Av. Diff.**		-0.6	-0.4	-0.4	-0.4	-0.4	-0.1	-0.4	-0.5	-0.4	-0.4	—	—	-0.7	-0.5	-0.5	-0.5	-0.2	-0.3
Max. Diff.***		-0.8	-0.5	-0.6	-0.7	-0.5	-0.2	-0.7	-0.6	-0.5	-1.3	—	—	-0.9	-0.6	-0.8	-0.7	-0.3	-0.5
		<u>Bursting Strength</u>																	
Institute		102	113	112	111	111	108	118	108	112	116	—	—	108	110	111	119	110	110
Mill		108	119	114	110	112	106	114	109	110	112	—	—	112	101	112	111	111	109
Av. Diff.**		+6	+6	+2	-1	+1	-2	-4	+1	-2	-4	—	—	+4	-9	+1	-8	+1	-1
Max. Diff.***		+8	+10	+8	-5	+4	-2	-11	+7	-6	-10	—	—	+8	-11	+6	-12	+10	-4
		<u>Tearing Strength, in</u>																	
Institute		388	365	323	360	349	300	394	318	325	312	—	—	314	333	339	352	309	341
Mill		345	366	338	339	347	305	357	318	318	270	—	—	233	356	339	325	325	370
Av. Diff.**		-43	+1	+15	-21	-2	+5	-37	0	-7	-42	—	—	-81	+23	0	-27	+16	+29
Max. Diff.***		-46	+30	+43	-49	-21	+14	-57	+13	-25	-64	—	—	-89	+31	-30	-65	+46	+55
		<u>Tearing Strength, across</u>																	
Institute		384	385	374	392	352	348	421	367	373	378	—	—	356	363	372	398	368	389
Mill		384	365	385	382	383	361	398	354	369	362	—	—	337	397	404	381	388	476
Av. Diff.**		0	-20	+11	-10	+31	+13	-23	-13	-4	-16	—	—	-19	+34	+32	-17	+20	+87
Max. Diff.***		+6	-36	+32	-37	+45	+22	-39	-14	-25	-34	—	—	-34	+41	+67	-44	+39	+111

* Comparison based on averages involved only those samples on which mill test data were submitted.
 ** Average difference is the difference between the Institute mill average and the mill average based on mill test data.
 *** Maximum difference encountered in comparing the Institute average and the mill average for any sample submitted by that particular mill.

TABLE XXIV

COMPARISON OF INSTITUTE-MILL DIFFERENCES BY PERIODS
Average Differences, per cent

Mill	Period	Basis Weight	Caliper	Bursting Strength	Tearing Strength, In	Across
A	Current	-0.7	-5	+6	-11	0
	116th	-1	-4	+4	-8	+4
	115th	-2	-3	+3	-6	+3
B	Current	0	-3	+5	+0.3	-5
	116th	-0.2	-2	+2	-2	-0.3
	115th	-1	-4	0	-2	-3
C	Current	-1	-3	+2	+5	+3
	116th	-2	-4	+6	+2	+5
	115th	-2	-5	+5	+0.3	+5
D	Current	+0.7	-3	-0.9	-6	-3
	116th	+0.2	-3	0	-6	-1
	115th	-0.2	-3	-2	-9	-5
E	Current	-0.7	-3	+0.9	-0.6	+9
	116th	-0.5	-3	+4	-1	+8
	115th	-0.9	-3	-3	-6	+13
F	Current	+2	-0.8	-2	+2	+4
	116th	0	0	-2	+6	+6
	115th	+0.2	0	+2	+4	+3
G	Current	-0.7	-3	-3	-9	-5
	116th	-1	-2	-3	-2	+3
	115th	-1	-3	0	-7	+0.7
H	Current	-0.9	-4	+0.9	0	-4
	116th	-0.2	-4	-3	-1	+2
	115th	-2	-5	-4	-5	-2
I	Current	-0.2	-3	-2	-2	-1
	116th	+1	-2	-0.9	-2	-0.3
	115th	+0.5	-3	-0.9	-9	-2
J	Current	-1	-3	-3	-13	-4
	116th	-2	-4	-4	-9	-0.8
	115th	-1	-4	-8	-8	-1
K	Current	--	--	--	--	--
	116th	--	--	--	--	--
	115th	--	--	--	--	--
L	Current	--	--	--	--	--
	116th	--	--	--	--	--
	115th	+0.2	-2	-7	-5	+0.6
M	Current	-1	-5	+4	-26	-5
	116th	-0.7	-6	+3	+9	+15
	115th	+2	-5	-3	+4	+13
N	Current	+3	-4	-8	+7	+9
	116th	+2	-2	+2	+2	+8
	115th	+3	-3	-6	+4	+8
O	Current	+0.2	-4	+0.9	0	+9
	116th	+0.2	-3	+4	+9	+13
	115th	-1	-3	+6	+2	+9
P	Current	0	-4	-7	-8	-4
	116th	-0.7	-5	-5	-8	-3
	115th	0	-4	-5	-1	+1
Q	Current	+0.5	-2	+0.9	+5	+5
	116th	-2	-2	+0.9	+4	+6
	115th	-0.7	0	0	+6	+7
S	Current	+1	-3	-0.9	+9	+22
	116th	+0.7	-4	-5	+5	+23
	115th	+0.2	-2	0	+2	+17

COMPARISON OF INSITU AND MILL DATA—MARCH 1 THROUGH MARCH 31, 1957

TABLE XIV

MILL A — 42-1B. LINEBOARD

File No.	Finish	Date Made	Mch. No.	Basis Weight, lb.		Caliper, points		Bursting Strength, p.s.i.		Elmendorf Tear, g./sheet	
				IPC	Mill Diff.	IPC	Mill Diff.	IPC	Mill Diff.	In	Across
173529	S.F.	2/25/57	7	44.0	-0.4	13.6	-0.8	101	105	351	377 ^a
173719	S.F.	3/13/57	7	43.0	-0.2	12.2	-0.4	103	111	338	391 ^a
Current Mill Average:				43.5	-0.3	12.9	-0.6	102	108	345	384
											0

TABLE XVI

MILL B — 42-1B. LINEBOARD

173660	W.	2/7/57	4	42.4	+0.2	12.6	-0.2	111	112	352 ^a	371 ^a	363	-8
173661	W.	2/12/57	4	42.8	+0.7	13.2	-0.4	115	115	371 ^a	385 ^a	349	-36
173720	W.	2/13/57	4	43.1	-0.1	13.2	-0.4	113	117	357	387 ^a	397	+10
173721	W.	2/19/57	2	43.4	-1.1	13.2	-0.4	115	125	361	405 ^a	369	-36
173844	W.	3/1/57	4	42.4	0.0	12.9	-0.5	111	121	380 ^a	374 ^a	339	-35
173845	W.	3/2/57	4	42.3	-0.1	13.1	-0.5	113	123	369 ^a	387 ^a	372	-15
Current Mill Average:				42.7	0.0	13.0	-0.4	113	119	365	385	365	-20

^aThis average includes the readings for one or more specimens which tore beyond the 3/8-inch limit.

Note: All "current mill average" data are calculated from the totals of the individual readings.

100

TABLE C-18. INDEPENDENT

File No.	Finish	Date Made	Basis Weight, lb.				Collapsibility, points				Bursting Strength, lb.				Extraneous Items, #/sheet			
			No.	IPC	Mill	Diff.	IPC	Mill	Diff.	IPC	Mill	Diff.	IPC	Mill	Diff.	IPC	Mill	Diff.
173594	W.F.	3/2/57	2	44.0	43.1	-0.9	12.7	12.1	-0.6	113	114	+1	337	326	-11	385	387	+2
173595	W.F.	3/2/57	2	44.1	43.2	-0.9	12.7	12.2	-0.5	110	112	+2	342	325	-17	373	393	+20
173691	W.F.	3/1/57	1	43.9	43.0	-0.9	12.5	12.2	-0.3	113	113	0	327	345	+18	377	381	+4
173692	W.F.	3/1/57	1	43.9	43.2	-0.7	12.4	12.1	-0.3	116	113	-3	349	341	-8	397	374	-23
173726	W.F.	3/16/57	2	43.9	43.5	-0.4	12.4	12.2	-0.2	110	118	+8	295	338	+43	362	394	+32
173727	W.F.	3/11/57	1	43.8	43.3	-0.5	12.4	12.0	-0.4	111	115	+4	307	346	+39	364	387	+23
173854	W.F.	3/17/57	2	43.1	42.8	-0.3	12.1	12.2	+0.1	113	112	-1	313	348	+35	359	386	+27
173855	W.F.	3/17/57	2	43.9	43.2	-0.7	12.4	12.2	-0.2	116	114	-2	316	332	+16	373	374	+1
Current Mill Average:				43.8	43.2	-0.6	12.5	12.1	-0.4	112	114	+2	323	338	+15	374	385	+11

Note: All "current mill average" data are calculated from the totals of the individual readings.

COMPARISON OF INSTANT AND MILL DATA - MARCH 1 THROUGH MARCH 31, 1957 (continued)

TABLE XVIII

MILL D -- 42-18, LINENBOARD

File No.	Finish	Date Made	Basic Weight, lb.			Caliper, Points			Bursting Strength, lb. per sq. inch			Elmendorf Tear, g./sheet		
			IPC	Mill	Diff.	IPC	Mill	Diff.	IPC	Mill	Diff.	IPC	Mill	Diff.
173601	W.F.	2/27/57	45.7	47.2	+1.5	13.0	12.6	-0.4	111	115	+4	358	372	+14
173602	W.F.	2/28/57	44.0	43.8	-0.2	13.5	13.0	-0.5	110	109	-1	358	335	-23
173603	W.F.	3/1/57	44.9	46.4	+1.5	13.7	13.1	-0.6	111	112	+1	359	343	-16
173591	W.F.	3/6/57	43.6	43.0	-0.6	13.1	12.9	-0.2	114	109	-5	354	323	-31
173592	W.F.	3/7/57	44.0	44.3	+0.3	12.4	12.3	-0.1	119	114	-5	351	335	-16
173593	W.F.	3/8/57	44.5	45.3	+0.8	13.1	12.8	-0.3	108	110	+2	378	335	-43
173768	W.F.	3/13/57	45.0	45.5	+0.5	13.1	12.6	-0.5	110	114	+4	349	335	-14
173769	W.F.	3/14/57	43.9	43.8	-0.1	12.8	12.1	-0.7	108	106	-2	373	325	-48
173770	W.F.	3/15/57	44.8	44.0	-0.8	13.5	12.9	-0.6	109	105	-4	363	343	-20
Current Mill Average:			44.5	44.8	+0.3	13.1	12.7	-0.4	111	110	-1	360	339	-21
												392	382	-10

*This average includes the readings for one or more specimens which tore beyond the 3/8-inch limit.

Note: All "current mill average" data are calculated from the totals of the individual readings.

COMPARISON OF INSTITUTE AND MILL DATA--MARCH 1 THROUGH MARCH 31, 1957 (continued)

TABLE XXII

MILL E -- 42-LB. LINERBOARD

File No.	Finish	Date Made	Mch. No.	Basis Weight, lb.		Caliper, Points		Bursting Strength, p.s.i. gage		Elmendorf Tear, g./sheet								
				IPC	Mill	Diff.	IPC	Mill	Diff.	IPC	Mill	Diff.	IPC	Mill	Diff.			
173598	W.F.	3/ 4/57	-	42.4	42.3	-0.1	12.3	11.9	-0.4	112	115	+ 3	356 ^a	335	-21	365 ^a	381	+16
173599	W.F.	3/ 4/57	-	43.2	42.8	-0.4	12.4	12.0	-0.4	114	113	- 1	349	349	0	376 ^a	397	+21
173835	W.F.	3/11/57	-	42.6	42.1	-0.5	12.3	11.8	-0.5	108	104	- 4	351 ^a	355	+ 4	334 ^a	376	+42
173836	W.F.	3/11/57	-	43.0	42.9	-0.1	12.2	12.0	-0.2	110	114	+ 4	341 ^a	348	+ 7	333 ^a	378	+45
Current Mill Average:				42.8	42.5	-0.3	12.3	11.9	-0.4	111	112	+ 1	349	347	- 2	352	383	+31

TABLE XXIII

MILL F -- 42-LB. LINERBOARD

173562	W.F.	2/26/57	1	43.2	43.8	+0.6	13.2	13.1	-0.1	109	107	-2	298 ^a	312	+14	356 ^a	363	+7
173732	W.F.	3/ 8/57	1	41.8	42.4	+0.6	13.1	12.9	-0.2	108	107	-1	300 ^a	297	-3	341 ^a	352	+11
173838	W.F.	3/11/57	1	42.0	42.9	+0.9	13.0	12.9	-0.1	106	106	0	302	305	+3	346 ^a	368	+22
Current Mill Average:				42.3	43.1	+0.8	13.1	13.0	-0.1	108	106	-2	300	305	+5	348	361	+13

^aThis average includes the readings for one or more specimens which tore beyond the 3/8-inch limit.

Note. All "current mill average" data are calculated from the totals of the individual readings.

COMPARISON OF INSTANTANEOUS AND MILL DATA - MARCH 1 THROUGH MARCH 31, 1957 (continued)

TABLE XIII

MILL 0 - 42-18. LINERBOARD

File No.	Finish	Date Made	Mch. No.	Basis Weight, lb.		Caliper, points		Bursting Strength, P.S.I. gage		Elmendorf Tear, g./sheet	
				IPC	Mill	IPC	Mill	IPC	Mill	In	Across
					Diff.		Diff.		Diff.	IPC	Mill
173524	W.B.	2/14/57	-	44.8	44.8	12.1	11.8	11.6	+ 2	365 ^a	347
173560	W.B.	2/16/57	-	44.8	44.2	12.5	11.8	11.7	- 5	402 ^a	377
173604	W.B.	2/28/57	-	44.6	44.2	12.2	11.6	11.5	+ 1	420 ^a	369
173662	W.B.	2/26/57	-	44.7	44.0	12.1	11.5	12.4	- 3	389 ^a	365
173525	W.B.	2/12/57	-	45.6	46.2	12.4	12.3	11.4	- 1	405 ^a	381
173561	W.B.	2/15/57	-	44.5	44.6	11.9	11.6	12.1	- 1	419 ^a	381
173558	W.B.	3/ 9/57	-	43.1	42.8	12.1	11.7	11.6	- 3	365 ^a	308
173605	W.B.	2/27/57	-	44.6	44.1	12.4	11.8	11.8	- 7	373 ^a	349
173859	W.B.	3/ 3/57	-	43.5	43.0	12.1	11.6	11.6	- 4	393 ^a	348
173860	W.B.	3/ 7/57	-	44.2	44.2	12.1	11.7	12.0	- 7	395 ^a	356
173861	W.B.	3/ 8/57	-	44.1	43.5	12.3	11.9	11.5	- 4	421 ^a	376
173850	W.B.	3/10/57	-	44.3	43.9	12.1	11.8	12.0	- 3	387 ^a	355
173851	W.B.	3/13/57	-	44.0	43.9	12.2	11.9	11.8	- 2	371 ^a	329
Current Mill Average:				44.4	44.1	12.2	11.8	11.8	- 4	394	357
										421	398
										-37	-23

^aThis average includes the readings for one or more specimens which tore beyond the 3/8-inch limit.

Note: All "current mill average" data are calculated from the totals of the individual readings.

COMPARISON OF INSTITUTE AND MILL DATA--MARCH 1 THROUGH MARCH 31, 1957 (continued)

TABLE XXXII

MILL H -- 42-LB. LINERBOARD

File No.	Finish	Date Made	Mch. No.	Basis Weight,		Caliper, points		Bursting Strength, P.S.I. Edge		Elmendorf Tear, g./sheet	
				IPC	Mill Diff.	IPC	Mill Diff.	IPC	Mill Diff.	In	Across
173528	W.F.S	2/11/57	1	42.6	-0.4	13.3	12.7 -0.6	104	111 + 7	329 ^a	316 -13
173600	W.F.S	2/23/57	1	43.2	-0.4	13.5	13.1 -0.4	111	106 - 5	308	321 +13
Current Mill Average:				42.9	-0.4	13.4	12.9 -0.5	108	109 + 1	318	318 0
										367	354 -13

TABLE XXXIII

MILL I -- 42-LB. LINERBOARD

173563	W.F.	2/18/57	1	42.5	+0.2	12.9	12.5 -0.4	114	112 - 2	352 ^a	335 -17	373 ^a	357 -16
173564	W.F.	2/19/57	2	43.2	-0.1	13.0	12.5 -0.5	115	109 - 6	330	315 -15	374 ^a	375 + 1
173658	W.F.	2/25/57	2	43.6	0.0	12.9	12.6 -0.3	106	107 + 1	343	331 -12	381 ^a	371 -10
173659	W.F.	2/25/57	2	42.5	+0.3	12.2	11.9 -0.3	114	113 - 1	307	308 + 1	373 ^a	382 + 9
173689	W.F.	2/27/57	2	42.4	+0.5	12.2	11.8 -0.4	118	115 - 3	313 ^a	314 + 1	373 ^a	383 +10
173690	W.F.	2/28/57	2	43.6	-0.1	12.9	12.5 -0.4	112	106 - 6	347 ^a	353 + 6	389 ^a	391 + 2
173733	W.F.	3/12/57	2	42.7	-0.4	12.0	11.8 -0.2	113	110 - 3	289 ^a	291 + 2	351 ^a	353 + 2
173734	W.F.	3/12/57	2	43.2	-0.8	11.9	11.5 -0.4	108	110 + 2	322	297 -25	366 ^a	341 -25
Current Mill Average:				43.0	-0.1	12.5	12.1 -0.4	112	110 - 2	325	318 - 7	373	369 - 4

^aThis average includes the readings for one or more specimens which tore beyond the 3/8-inch limit.

Note: All "current mill average" data are calculated from the totals of the individual readings.

COMPARISON OF TESTS AND MILL DATA - JUNE 1 THROUGH MARCH 31, 1957 (continued)

TABLE XXXIV

MILL J -- 42-LB. LINERBOARD

File No.	Finish	Date Made	Mch. No.	Basis Weight, lb.		Caliper, points		Bursting Strength, p.s.i.		Elmendorf Tear, g./sheet	
				IPC	Mill Diff.	IPC	Mill Diff.	IPC	Mill Diff.	IPC	Mill Diff.
173541	W.F.	2/ 4/57	1	41.9	41.9 0.0	12.4	13.2 +0.8	117	107 -10	331 ^a	301 -30
173542	A.F.	2/ 7/57	1	43.2	42.1 -1.1	13.9	13.2 -0.7	122	114 -8	395 ^a	387 -8
173543	A.F.	2/12/57	1	41.9	41.6 -0.3	13.4	12.1 -1.3	118	112 -6	398 ^a	388 -10
173544	A.F.	2/16/57	1	42.9	41.9 -1.0	13.4	13.0 -0.4	119	107 -3	357 ^a	338 -19
173687	A.F.	2/18/57	1	42.2	42.2 0.0	13.3	13.1 -0.2	112	111 -1	376 ^a	342 -34
173688	A.F.	2/21/57	1	43.1	42.6 -0.5	13.5	13.1 -0.4	119	122 +3	370 ^a	368 -2
Current Mill Average:				42.6	42.1 -0.5	13.3	12.9 -0.4	116	112 -4	373	362 -16

TABLE XXXV

MILL K -- 42-LB. LINERBOARD

No Samples Submitted

TABLE XXXVI

MILL L -- 42-LB. LINERBOARD

No Samples Submitted

^aThis average includes the readings for one or more specimens which tore beyond the 3/8-inch limit.
Note: All "current mill average" data are calculated from the totals of the individual readings.

COMBINATION OF INSITU AND MILL DATA - MARCH 2 THROUGH MARCH 31, 1957 (continued)

TABLE XXVII

MILL N -- 42-LB. LINERBOARD

File No.	Finish	Date Made	Mch. No.	Basis Weight, lb.		Caliper, points		Bursting Strength, P.S.I. gage		Elmendorf Tear, g./sheet		Across	
				IPC	Diff.	IPC	Diff.	IPC	Diff.	In	Diff.	IPC	Diff.
173837	WFLS	3/19/57	1	43.5 ^b	0.0	12.9 ^b	-0.7	107 ^b	115 + 8	320 ^b	-72	360 ^{a,b}	356 - 4
173842	WFLS	3/20/57	1	44.0	-0.8	13.2	-0.9	109	109 0	308	-89	353 ^a	319 -34
Current Mill Average:				43.8	-0.5	13.0	-0.7	108	112 + 4	314	-81	356	337 -19

TABLE XXVIII

MILL N -- 42-LB. LINERBOARD

173596	WFLS	3/ 4/57	2	42.9	+0.9	13.3	-0.3	110	102 - 8	313 ^a	344	367 ^a	408 +41
173597	WFLS	3/ 6/57	2	42.7	+0.7	13.6	-0.6	108	102 - 6	343 ^a	351 + 8	350 ^a	389 +39
173722	WFLS	3/12/57	2	42.1	+1.9	13.5	-0.6	111	100 -11	342 ^a	373 +31	371 ^a	393 +22
Current Mill Average:				42.6	+1.2	13.5	-0.5	110	101 - 9	333	356 +23	363	397 +34

^aThis average includes the readings for one or more specimens which tore beyond the 3/8-inch limit.

^bThis average represents readings from only the B series of sheets.

Note: All "current mill average" data are calculated from the totals of the individual readings.

COMPARISON OF TESTS AND MILL DATA—MARCH 1 THROUGH MARCH 31, 1957 (continued)

TABLE XIII

MILL 0 -- 42-US. LINEBOARD

File No.	Finish	Date Made	Mch. No.	Basis Weight, lb.		Caliper, Points		Bursting Strength, P.S.I. Range		In		Elmendorf Tear, g./sheet		Across				
				IPC	Mill	Diff.	IPC	Mill	Diff.	IPC	Mill	Diff.	IPC	Mill	Diff.			
173522	W.F.	2/12/57	2	43.4	43.9	+0.5	12.6	12.0	-0.6	107	113	+ 6	334	362	+28	375 ^a	417	+42
173523	W.F.	2/13/57	2	43.7	44.0	+0.3	12.6	12.1	-0.5	110	112	+ 2	365 ^a	354	-11	387 ^a	415	+28
173539	W.F.	2/18/57	3	43.8	43.8	0.0	11.5	11.2	-0.3	117	120	+ 3	339	319	-20	393 ^a	382	-11
173540	W.F.	2/18/57	3	43.5	43.7	+0.2	11.5	11.3	-0.2	114	116	+ 2	347	317	-30	387 ^a	378	- 9
173724	W.F.	2/25/57	2	41.8	42.1	+0.3	12.0	11.2	-0.8	109	110	+ 1	331 ^a	317	-14	363 ^a	377	+14
173725	W.F.	2/26/57	2	42.1	41.9	-0.2	11.9	11.2	-0.7	110	107	- 3	294	309	+15	366 ^a	388	+22
173737	W.F.	3/ 7/57	2	42.6	42.3	-0.3	11.8	11.2	-0.6	112	110	- 2	325 ^a	342	+17	366 ^a	409	+43
173738	W.F.	3/ 8/57	2	42.0	42.0	0.0	11.6	11.1	-0.5	113	111	- 2	321 ^a	317	- 4	369 ^a	405	+36
173739	W.F.	3/12/57	2	42.4	42.8	+0.4	11.9	11.4	-0.5	110	112	+ 2	363 ^a	371	+ 8	371 ^a	423	+52
173740	W.F.	3/13/57	2	42.2	42.3	+0.1	11.8	11.2	-0.6	110	112	+ 2	357 ^a	345	-12	367 ^a	413	+46
173856	W.F.	3/17/57	2	42.9	43.0	+0.1	12.0	11.5	-0.5	111	109	- 2	348 ^a	358	+10	367 ^a	419	+52
173857	W.F.	3/18/57	2	42.1	41.7	-0.4	12.0	11.3	-0.7	110	108	- 2	345 ^a	357	+12	349 ^a	416	+67
Current Mill Average.				42.7	42.8	+0.1	11.9	11.4	-0.5	111	112	+ 1	339	339	0	372	404	+32

^aThis average includes the readings for one or more specimens which tore beyond the 3/8-inch limit.

Note: All "current mill average" data are calculated from the totals of the individual readings.

COMPARISON OF INSTITUTE AND MILL DATA--MARCH 1 THROUGH MARCH 31, 1957 (continued)

TABLE XL

MILL P -- 42-LB. LINERBOARD

File No.	Finish	Date Made	Mch. No.	Basis Weight, lb.		Caliper, points		Bursting Strength, P.S.I. gage		In		Elmendorf Tear, g./sheet		Across	
				IPC	Mill Diff.	IPC	Mill Diff.	IPC	Mill Diff.	IPC	Mill Diff.	IPC	Diff.	IPC	Mill Diff.
173545	W.F.	2/26/57	-	43.1	-0.3	12.5	12.0	-0.5	124	113	-11	369 ^a	-65	377 ^a	360
173546	W.F.	2/27/57	-	45.0	-0.3	13.0	12.4	-0.6	122	112	-10	375 ^a	-46	417 ^a	381
173589	W.F.	2/28/57	-	44.1	-0.2	13.1	12.6	-0.5	118	110	-8	357	-16	406 ^a	389
173590	W.F.	2/28/57	-	44.7	-0.4	13.1	12.6	-0.5	118	110	-8	369 ^a	-10	425 ^a	381
173653	W.F.	3/7/57	-	44.0	+0.4	12.5	12.0	-0.5	125	120	-5	355	-19	405 ^a	385
173694	W.F.	3/8/57	-	44.2	+0.2	12.7	12.0	-0.7	118	112	-6	331 ^a	-26	391 ^a	373
173695	W.F.	3/8/57	-	44.0	-0.2	12.9	12.3	-0.6	123	111	-12	336 ^a	-28	387 ^a	372
173728	W.F.	3/12/57	-	43.8	+0.3	12.0	11.6	-0.4	117	106	-11	343 ^a	+2	410 ^a	397
173729	W.F.	3/12/57	-	42.3	+0.2	12.2	11.5	-0.7	112	111	-1	329 ^a	-48	373 ^a	379
173730	W.F.	3/12/57	-	43.5	+0.1	12.4	11.9	-0.5	113	111	-2	349 ^a	-10	405 ^a	383
173731	W.F.	3/13/57	-	43.7	-0.2	12.6	12.1	-0.5	119	110	-9	349 ^a	-20	395 ^a	385
173839	W.F.	3/13/57	-	44.6	-0.4	12.7	12.3	-0.4	115	110	-5	361	-40	389 ^a	389
Current Mill Average:				43.9	0.0	12.6	12.1	-0.5	119	111	-8	352	-27	398	381

^aThis average includes the readings for one or more specimens which tore beyond the 3/8-inch limit.

Note. All "current mill average" data are calculated from the totals of the individual readings.

COMPARISON OF INSTITUTE AND MILL DATA--MARCH 1 THROUGH MARCH 31, 1957 (continued)

TABLE XII

MILL Q -- 42-LB. LINERBOARD

File No.	Finish	Date Made	Mch. No.	Basis Weight, lb.		Caliper, points		Bursting Strength, p.s.i.		Elmendorf Tear, g./sheet	
				IPC	Diff.	IPC	Diff.	IPC	Diff.	In	Across
173716	WFLS	2/27/57	1	42.7	+0.1	12.3	-0.1	108	+1	309 ^a	329
173717	WFLS	2/28/57	1	42.7	+0.1	12.2	-0.1	108	0	287 ^a	333
173718	WFLS	3/ 5/57	1	42.1	+0.3	12.9	-0.3	104	+10	332 ^a	347
173735	WFLS	3/ 7/57	1	42.2	+0.1	12.9	-0.3	108	+7	325	341
173736	WFLS	3/11/57	1	41.8	+0.7	11.8	-0.1	111	0	299 ^a	290
173846	WFLS	3/15/57	1	41.8	+0.7	11.9	-0.3	118	-6	321	314
173847	WFLS	3/16/57	1	43.0	-0.4	12.3	-0.3	113	-5	293 ^a	323
Current Mill Average:				42.3	+0.2	12.3	-0.2	110	+1	309	325
										368	388

TABLE XIII

MILL S -- 42-LB. LINERBOARD

173526	WFLS	2/23/57	1	41.6	+0.6	11.7	-0.2	111	0	335 ^a	377	499	+111
173538	WFLS	2/23/57	1	41.0	+0.7	11.4	-0.2	111	-4	351 ^a	353	472	+84
173588	WFLS	3/ 3/57	1	41.9	0.0	10.9	-0.1	113	-2	338 ^a	384	455	+68
173657	WFLS	3/ 5/57	1	40.9	+0.6	11.5	-0.5	110	-3	341 ^a	341	467	+74
173843	WFLS	3/14/57	1	42.5	+0.3	11.4	-0.2	109	0	343 ^a	376	473	+72
173853	WFLS	3/16/57	1	41.7	0.0	12.0	-0.4	107	0	336 ^a	391	488	+107
Current Mill Average:				41.6	+0.4	11.5	-0.3	110	-1	341	370	476	+87

^aThis average includes the readings for one or more specimens which tore beyond the 3/8-inch limit.

Note. All "current mill average" data are calculated from the totals of the individual readings.

COMPARISON OF INSTITUTE AND MILL DATA--MARCH 1 THROUGH MARCH 31, 1957 (continued)

TABLE XLIII

MILL R -- MISCELLANEOUS

File No.	Finish	Date Made	Mch. No.	Basis Weight, lb.		Caliper, points		Bursting Strength, p.s.i. range		Elmendorf Tear, g./sheet				
				IPC	Mill Diff.	IPC	Mill Diff.	IPC	Mill Diff.	In	Across	IPC	Mill Diff.	
<u>47-lb. Drum Linerboard</u>														
173527	WF2S	2/22/57	2	46.4	48.0 +1.6	13.8	13.5 -0.3	94	96 + 2	376 ^a	379 + 3	381 ^a	402	+21
Current Mill Average:				46.4	48.0 +1.6	13.8	13.5 -0.3	94	96 + 2	376	379 + 3	381	402	+21
<u>33-lb. Linerboard</u>														
173723	WF1S	3/14/57	2	34.0	35.3 +1.3	10.4	10 -0.4	85	84 - 1	265	300 +35	268 ^a	306	+38

^aThis average includes the readings for one or more specimens which tore beyond the 3/8-inch limit.

Note: All "current mill average" data are calculated from the totals of the individual readings.

